

Method And System For Managing Metadata Associated With Digital Video

The present invention now will be described more fully hereinafter with reference to the accompanying drawings, in which preferred embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. Like numbers refer to like elements throughout.

Metadata

In order to tailor programming to consumers and to target consumers for programmers and advertisers, each end of the two-way cable transaction will need to be identified, cross-referenced, processed and brought together. Metadata is one means to that end.

All programming must be uniquely identified to take full advantage of the personal television model. This includes live programming, news, sports, traditional network programming, movies, etc. Metadata management tools could enable an operator like Cox to grab bits of content from The Weather Channel, CNN, and ESPN to create personalized news services and license the content back to the content owners.

Metadata contains all relevant information for a digital asset: title, owner, interactive content, digital rights management, etc. Metadata has the potential to be introduced into the program stream at all levels of the value chain.

Metadata use could grow to include all of the following:

- Program Title
- Content Attributes
- Talent Attributes
- Ratings and V-Chip information
- Links for T-Commerce
- Links for Multimedia Content
- Video Description/Closed Caption
- Links to Local Dealers
- Target Demographic information
- Similar programming suggestions
- Content Provider data
- Expiration tags
- Copyright information
- Parental Controls
- And on and on and on

Currently, the metadata is inserted at the time of encoding or manually edited at the cable headend. Content owners and licensees can't change any of the metadata parameters of a digital asset once it is shipped without either re-encoding and redistributing the media or editing it locally at every distribution point.

What is Metadata Administrator?

The Metadata Administrator according to one embodiment of the present invention is a method to manage and control metadata content. The method may be implemented in one embodiment in a centralized hub and accessed via a web browser by the owners of

content associated with the metadata (such as a movie studio) as well as by users looking for metadata (such as a consumer looking for movies starring a certain actress, or a personal TV management system suggesting movies to a viewer who enjoys travel documentaries). It will preferably allow for the flexibility and scalability for inserting metadata into content essential for the widespread exploitation of personal TV.

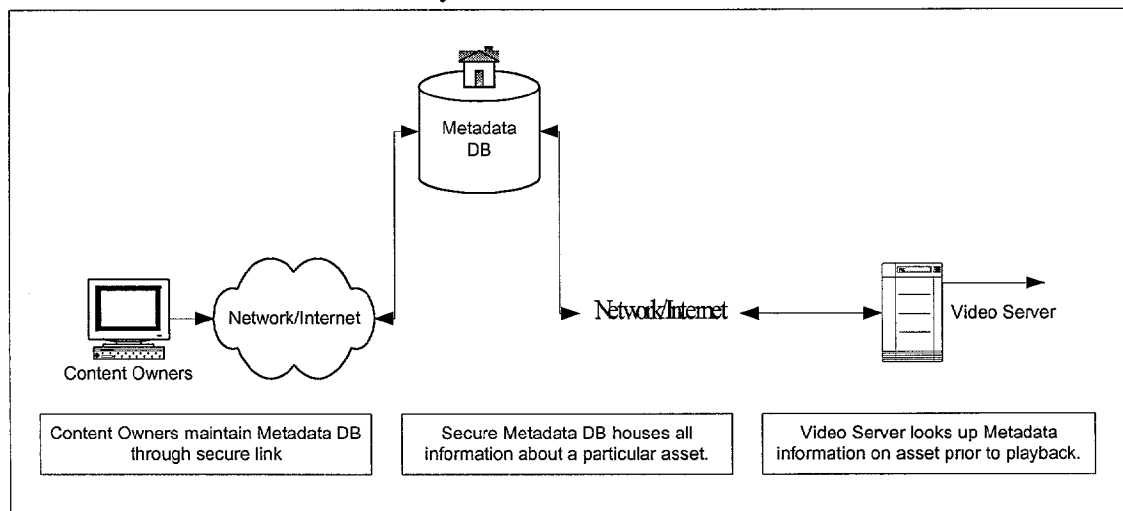
Content owners are very protective of the metadata inserted into their content. While not all systems are secure today, controlling access to metadata editing will be important to these rights holders.

In one embodiment of the invention, the concept of the Metadata Administrator is a simple one. Although there would be many copies of assets located at numerous locations, there would be just one or a few central metadata information library.

How it Works

Assume every bit of content has a metadata Asset ID. This asset ID is embedded within the digital media. The cross-reference catalog (or database) is housed on a series of secure hosts. These catalogs are only accessible by the content owners or licensees. Any time a piece of content needs to be updated for personal television options, instead of re-encoding the metadata on every piece of media in the field, only the web catalog would need to be updated. An analogy to a Yahoo directory of web pages is somewhat apt, though incomplete.

In a cable TV personal TV application, before content at a cable head-end is distributed to end customers, the video server checks for the most recent metadata tags for that asset. The key to dynamic content creation is the system/process to have the asset verify metadata information automatically.



Why is it Important?

A system and method according to the present invention could be built into all asset distribution and playback equipment. Given that there is no current standard for metadata fields or plans to expand with new services, this scheme allows for the work to be done once and distributed many times, based on the environment in which the individual asset live.

The standards for metadata will change as Personal Television grows. Studios might demand a better way to control their data or the government might want to regulate metadata in the same way they regulate V-chip and closed caption information. Regardless, there will be a need to dynamically update metadata to take true advantage of personal television.

Metadata Administrator has the potential to be adopted for use in many system architectures. Here are some examples of methods and systems incorporating aspects of the present invention:

Advertising

Special promotions, market tests and sales of media (DVD, VHS, CDs, etc.) change often. Suppose a syndicator has the rights for Buffy the Vampire Slayer. The syndicator has digital media assets for all episodes. Warner Bros. Home Video releases Buffy in a new collection on DVD. The series could be dynamically tagged via the central database with purchase information for a qualified retailer, e-tailer or television-commerce provider.

Cable Operator Links

Using the Buffy analogy again. Suppose a cable operator is offering a movie featuring Sarah Michelle Geller on PPV/VOD this month. Each episode of Buffy could include a link with a promotional offer to order the movie. The offer could change as the movie selection changes.

There are other uses for this type of cross-reference system. They include

- Links to Local Dealers
- Content Attributes
- Target Demographic information
- Talent Attributes
- Similar programming suggestions
- Links for Multimedia Content
- Video Description/Closed Caption
- V-Chip and Ratings information

Many modifications and other embodiments of the invention will come to mind to one skilled in the art to which this invention pertains having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the invention is not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.